






MESSAGE		MESSAGE ID		MESSAGE PROPERTIES		
						18
						18
						18

FIG. 1A

22		24		28		28
MESSAGE ID		CONSUMER ID		MESSAGE STATE	HISTORY LOG	
21						
21						
21						
21						

FIG. 1B

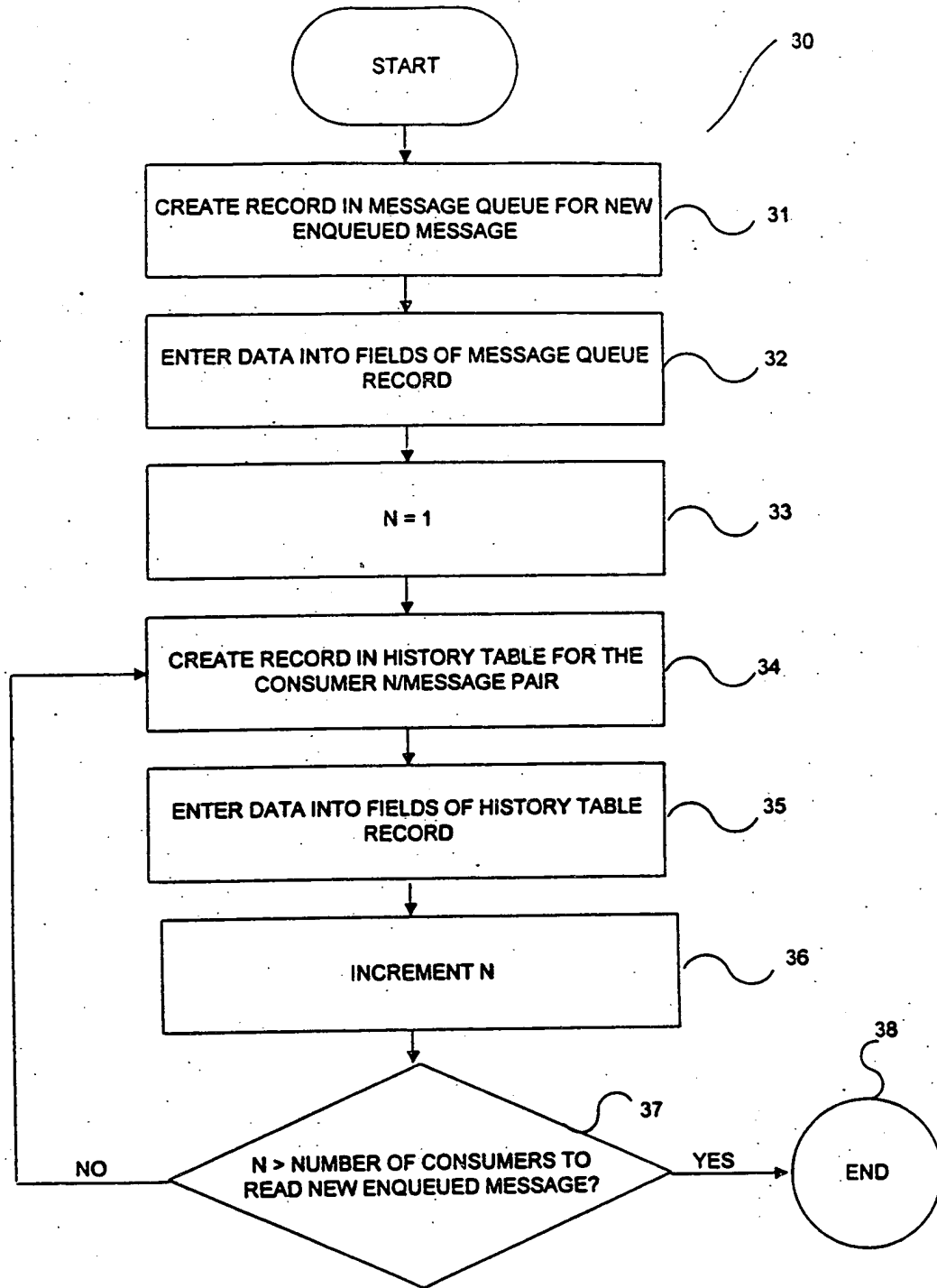


FIG. 2

40

MESSAGE	MESSAGE ID	MESSAGE PROPERTIES

FIG. 3A-1

42

MESSAGE ID	CONSUMER ID	MESSAGE STATE	HISTORY LOG

FIG. 3A-2

46

MESSAGE	MESSAGE ID	MESSAGE PROPERTIES
47	MSG-X	50

48

FIG. 3B-1

51

MESSAGE ID	CONSUMER ID	MESSAGE STATE	HISTORY LOG
MSG_X	A	ENQUEUED	54
MSG_X	B	ENQUEUED	56
MSG_X	C	ENQUEUED	58

52

FIG. 3B-2

44

MESSAGE	MESSAGE ID	MESSAGE PROPERTIES
	MSG-X	

FIG. 3C-1

62

MESSAGE ID	CONSUMER ID	MESSAGE STATE	HISTORY LOG
MSG_X	A	ENQUEUED	
MSG_X	B	READ	
MSG_X	C	ENQUEUED	

61

FIG. 3C-2

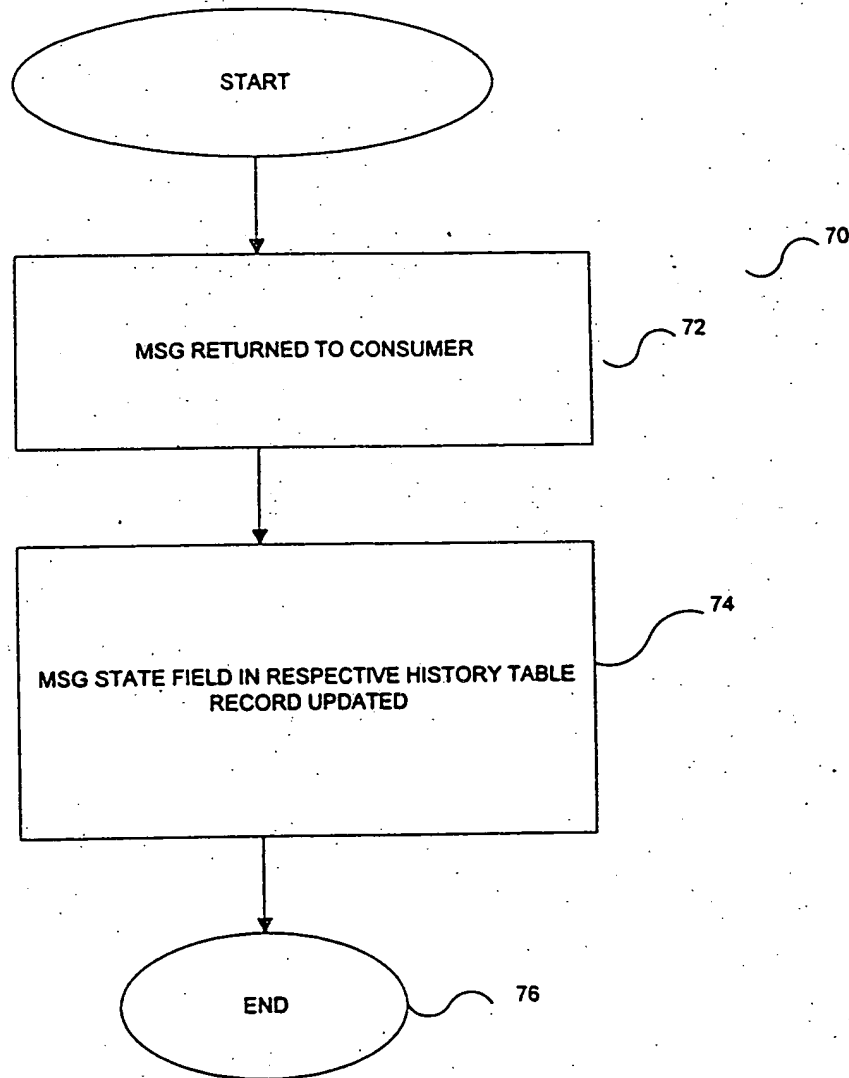


FIG. 4

150

152 153 154 155

MESSAGE ID	CONSUMER ID	ENQUEUE TIME	PRIORITY
156			
156			

FIG. 5

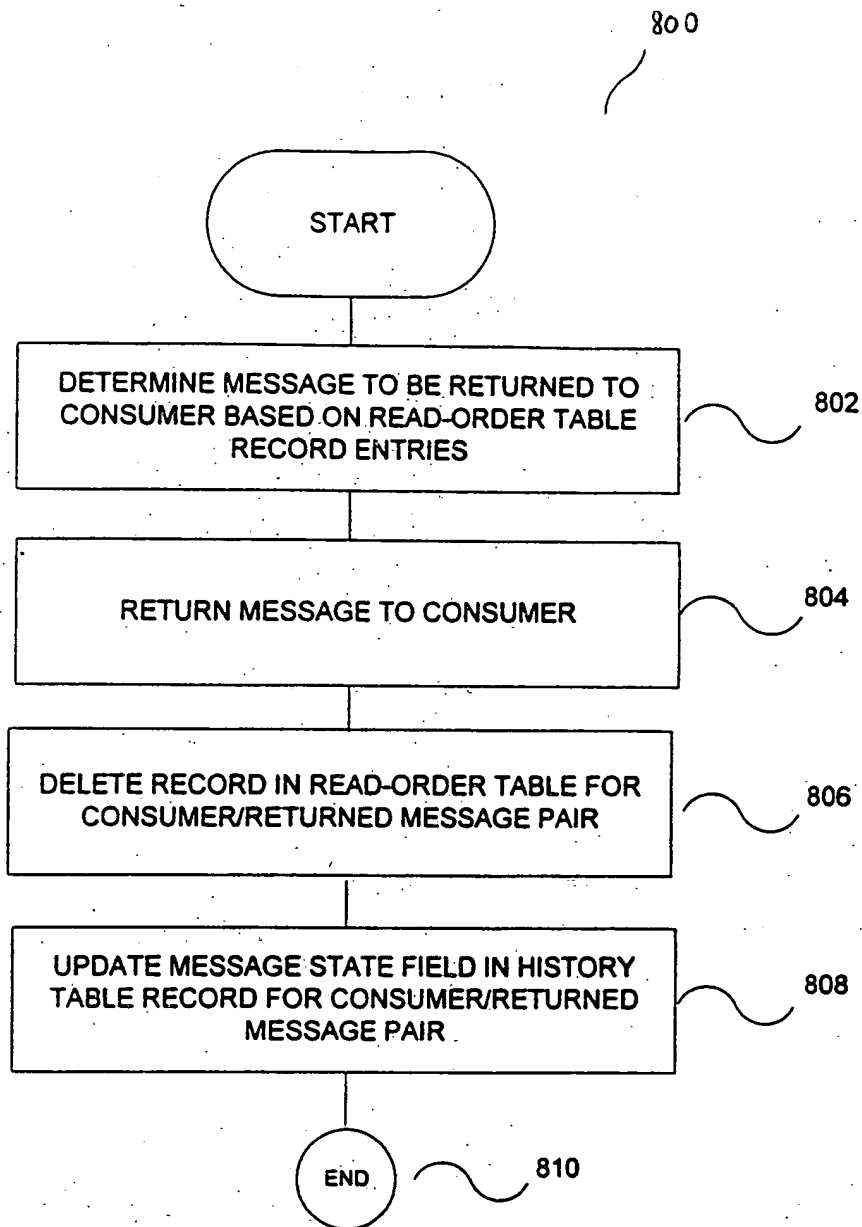


FIG. 6

MESSAGE	MESSAGE ID	MESSAGE PROPERTIES
530	MSG_X	525
532	MSG_Y	

FIG. 7A-1

MESSAGE ID	CONSUMER ID	ENQUEUE TIME
551	A	8:05
552	B	8:05
553	A	9:10
554	B	9:10
555	C	9:10
556	D	9:10

FIG. 7A-2

MESSAGE ID	CONSUMER ID	MESSAGE STATE	HISTORY LOG
580	A	ENQUEUED	575
581	B	ENQUEUED	
582	A	ENQUEUED	
583	B	ENQUEUED	
584	C	ENQUEUED	
585	D	ENQUEUED	

FIG. 7A-3

MESSAGE	MESSAGE ID	MESSAGE PROPERTIES
530	MSG_X	525
532	MSG_Y	

FIG. 7B-1

MESSAGE ID	CONSUMER ID	ENQUEUE TIME
MSG_X	A	8:05
MSG_Y	A	9:10
MSG_Y	B	9:10
MSG_Y	C	9:10
MSG_Y	D	9:10

FIG. 7B-2

MESSAGE ID	CONSUMER ID	MESSAGE STATE	HISTORY LOG
MSG_X	A	ENQUEUED	604
602	B	READ	
MSG_Y	A	ENQUEUED	
MSG_Y	B	ENQUEUED	
MSG_Y	C	ENQUEUED	
MSG_Y	D	ENQUEUED	

FIG. 7B-3

825	MESSAGE	MESSAGE ID	MESSAGE PROPERTIES
826	~	MSG_X	~
827	~	MSG_Y	~
828	~	MSG_Z	~

FIG. 8A-1

850	853	856	852	854
830	MESSAGE ID	CONSUMER ID	ENQUEUE TIME	PRIORITY
831	MSG_X	A	8:05	2
832	MSG_X	B	8:05	2
833	MSG_Y	A	8:30	1
834	MSG_Y	B	8:30	1
	MSG_Z	A	9:00	1

FIG. 8A-2

875	MESSAGE ID	CONSUMER ID	MESSAGE STATE	848	HISTORY LOG
841	MSG_X	A	ENQUEUED		~
842	MSG_X	B	ENQUEUED		~
843	MSG_Y	A	ENQUEUED		~
844	MSG_Y	B	ENQUEUED		~
845	MSG_Z	A	ENQUEUED		~

FIG. 8A-3

825	MESSAGE	MESSAGE ID	MESSAGE PROPERTIES
826	~	MSG_X	~
827	~	MSG_Y	~
828	~	MSG_Z	~

FIG. 8B-1

860	MESSAGE ID	CONSUMER ID	ENQUEUE TIME	PRIORITY
	MSG_X	A	8:05	2
	MSG_X	B	8:05	2
	MSG_Y	B	8:30	1
	MSG_Z	A	9:00	1

FIG. 8B-2

880	MESSAGE ID	CONSUMER ID	884	MESSAGE STATE	HISTORY LOG
	MSG_X	A		ENQUEUED	~
	MSG_X	B		ENQUEUED	~
882	MSG_Y	A		READ	~
	MSG_Y	B		ENQUEUED	~
	MSG_Z	A		ENQUEUED	~

FIG. 8B-3

142	MESSAGE	MESSAGE ID	MESSAGE PROPERTIES
144	~	MSG_A	~
	~	MSG_B	~

125

FIG. 10A-1

129	MESSAGE ID	CONSUMER ID	MESSAGE STATE	HISTORY LOG
131	MSG_A	J	READ	~
145	MSG_A	K	READ	~
146	MSG_B	W	ENQUEUED	~
147	MSG_B	X	READ	~
148	MSG_B	Y	ENQUEUED	~
127	MSG_B	Z	ENQUEUED	~

136 158

FIG. 10A-2

141	MESSAGE	MESSAGE ID	MESSAGE PROPERTIES
137	~	MSG_B	~

FIG. 10B-1

132	MESSAGE ID	CONSUMER ID	MESSAGE STATE	HISTORY LOG
133	MSG_B	W	ENQUEUED	~
134	MSG_B	X	READ	~
135	MSG_B	Y	ENQUEUED	~
139	MSG_B	Z	ENQUEUED	~

143

FIG. 10B-2

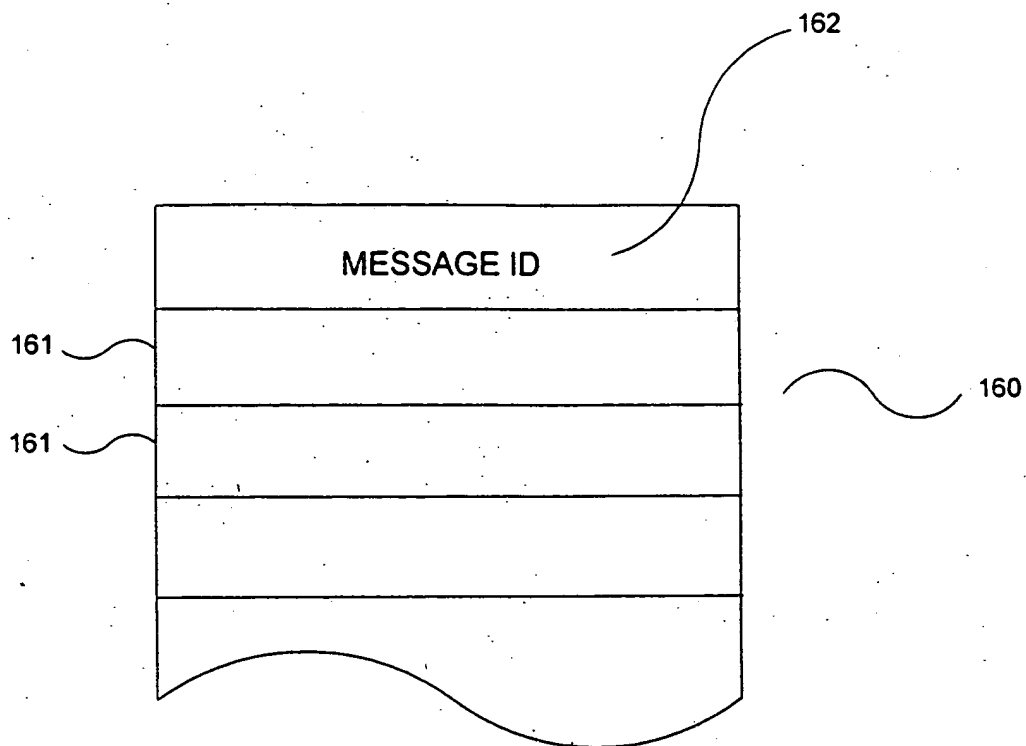


FIG. 11

180

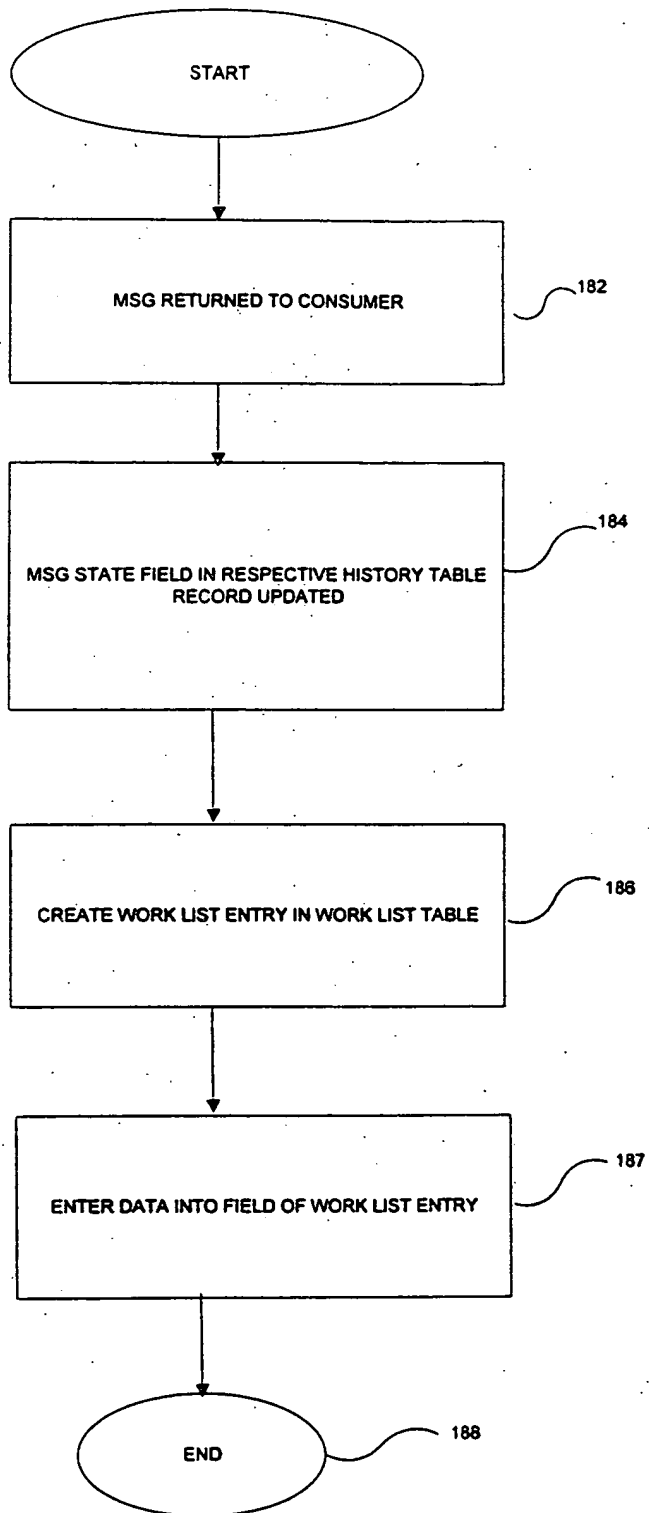


FIG. 12

MESSAGE	MESSAGE ID	MESSAGE PROPERTIES
201	MSG_X	203
203	MSG_Y	203

FIG. 13A-1

MESSAGE ID
204

FIG. 13A-3

MESSAGE ID	CONSUMER ID	MESSAGE STATE	HISTORY LOG
MSG_X	A	ENQUEUED	206
MSG_X	B	ENQUEUED	208
MSG_Y	A	ENQUEUED	210
MSG_Y	B	ENQUEUED	212
MSG_Y	C	ENQUEUED	214
MSG_Y	D	ENQUEUED	216

FIG. 13A-2

MESSAGE	MESSAGE ID	MESSAGE PROPERTIES
200	MSG_X	200
200	MSG_Y	200

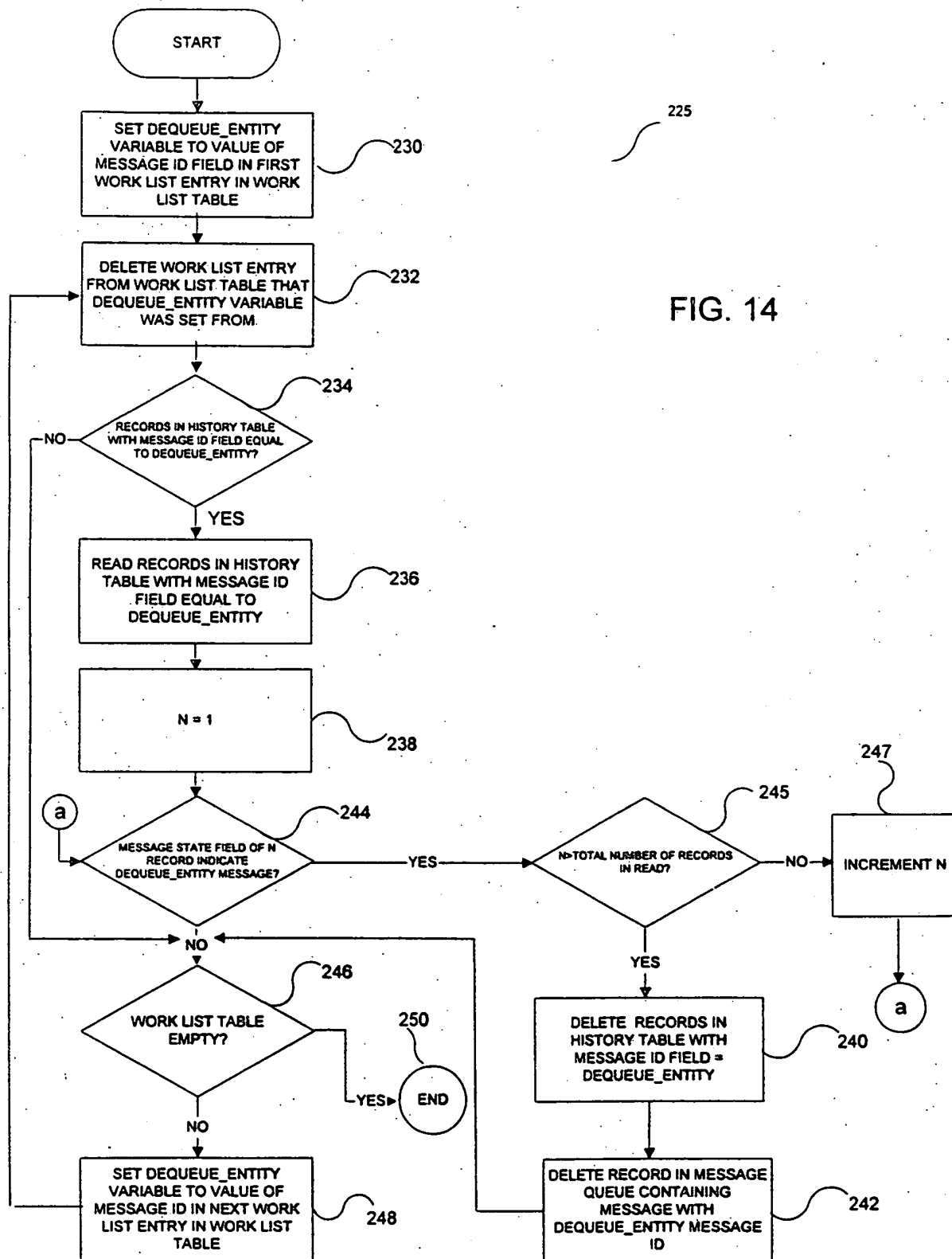
FIG. 13B-1

MESSAGE ID
212
MSG_X

FIG. 13B-3

MESSAGE ID	CONSUMER ID	MESSAGE STATE	HISTORY LOG
MSG_X	A	ENQUEUED	211
MSG_X	B	READ	218
MSG_Y	A	ENQUEUED	211
MSG_Y	B	ENQUEUED	211
MSG_Y	C	ENQUEUED	211
MSG_Y	D	ENQUEUED	211

FIG. 13B-2



300	MESSAGE	MESSAGE ID	MESSAGE PROPERTIES
301	~	MSG_X	~
303	~	MSG_Y	~
305	~	MSG_Z	~

FIG. 15A-1

320	MESSAGE ID
	MSG_Y

FIG. 15A-3

330	MESSAGE	MESSAGE ID	MESSAGE PROPERTIES
337	~	MSG_X	~
338	~	MSG_Z	~

FIG. 15B-1

350	MESSAGE ID
-----	------------

FIG. 15B-3

330	MESSAGE	MESSAGE ID	MESSAGE PROPERTIES
337	~	MSG_X	~
338	~	MSG_Z	~

FIG. 15C-1

360	MESSAGE ID
362	MSG_X
364	MSG_X
366	MSG_Z

FIG. 15C-3

310	MESSAGE ID	CONSUMER ID	MESSAGE STATE	HISTORY LOG
341	MSG_X	A	ENQUEUED	~
342	MSG_X	B	ENQUEUED	~
343	MSG_Y	C	READ	~
344	MSG_Z	A	READ	~
345	MSG_Z	B	ENQUEUED	~
346	MSG_Z	C	READ	~
347	MSG_Z	D	ENQUEUED	~

FIG. 15A-2

340	MESSAGE ID	CONSUMER ID	MESSAGE STATE	HISTORY LOG
351	MSG_X	A	ENQUEUED	~
352	MSG_X	B	ENQUEUED	~
353	MSG_Z	A	READ	~
354	MSG_Z	B	ENQUEUED	~
355	MSG_Z	C	READ	~
356	MSG_Z	D	ENQUEUED	~

FIG. 15B-2

340	MESSAGE ID	CONSUMER ID	MESSAGE STATE	HISTORY LOG
334	MSG_X	A	READ	~
336	MSG_X	B	READ	~
361	MSG_Z	A	READ	~
363	MSG_Z	B	ENQUEUED	~
365	MSG_Z	C	READ	~
367	MSG_Z	D	READ	~

FIG. 15C-2

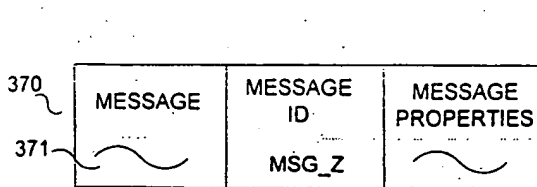


FIG. 15D-1



FIG. 15D-3

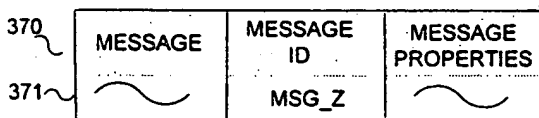


FIG. 15E-1

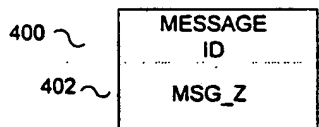


FIG. 15E-3

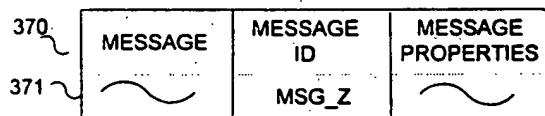


FIG. 15F-1



FIG. 15F-3

380

MESSAGE ID	CONSUMER ID	MESSAGE STATE	HISTORY LOG
382 MSG_Z	A	READ	
384 MSG_Z	B	ENQUEUED	
386 MSG_Z	C	READ	
388 MSG_Z	D	READ	

FIG. 15D-2

380

374

MESSAGE ID	CONSUMER ID	MESSAGE STATE	HISTORY LOG
382 MSG_Z	A	READ	
384 MSG_Z	B	ENQUEUED	
386 MSG_Z	C	READ	
388 MSG_Z	D	READ	

FIG. 15E-2

380

MESSAGE ID	CONSUMER ID	MESSAGE STATE	HISTORY LOG
MSG_Z	A	READ	
MSG_Z	B	ENQUEUED	
MSG_Z	C	READ	
MSG_Z	D	READ	

FIG. 15F-2

458	452	454	456	450
458	MESSAGE ID	TIME	ACTION	
458				
458				

FIG. 16

500	MESSAGE ID	TIME	ACTION	
	MSG_A	IMMEDIATELY	DELETE	502
	MSG_B	8:00 a.m	SHOW	504
	MSG_X	IMMEDIATELY	EXPIRE	506
	MSG_H	1/31/99	EXPIRE	508

FIG. 17